

BUDINSKY, J.

Dynamic properties of junction transistors under pulse conditions. P 747

SLABOUDY OBZOR (Ministerstvo vscobenibo strojirenstvi, Ministerstvo spoju
a Ceskoslovenska vedecko-technicka spolecnost, sekce elektrotechnika) Praha,
Czechoslovakia, Vol. 20, no. 12 Dec. 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 9, no. 2,
Feb. 1960

Uncl.

BUDINSKY, Jaroslav, inz.

Possibilities of using junction transistors in electronic telephone exchanges. Sloboproudy obzor 21 no.12:709-714 D '60. (EEAI 10:3)

1. Vyzkumny ustav telekomunikaci
(Telephone) (Transistors)

BUDINSKIY, Jaroslav, inz.

"Semiconductors" by Z.Dragoun, K.Smirous . Reviewed by Jaroslav
Budinsky. Stroj vyr ll no.9:474 S '63.

BUDINSKY, Jaroslav, inz.

Resonance principle of speech signal transmission in electronic telephone exchanges. Slaboproudy obzor 25 no.10:561-566 0 '64.

1. Research Institute of Telecommunication, Prague.

L 1708-66 EWT(d)

ACCESSION NR: AP5024071

CZ/0039/64/025/010/0561/0566

AUTHOR: Budinskiy, Jaroslav (Engineer)

TITLE: Resonance principle of speech signal transmission in electronic telephone exchanges

SOURCE: Slaboproudy sbor, v. 25, no. 10, 1964, 561-566

TOPIC TAGS: speech signal, speech transmission, telephone system, acoustic resonance

ABSTRACT: Presented is a system with time division of trunks with the possibility of using it in electronic telephone exchanges. Basic principles and problems of designing a trunk line are explained with regard to the practical application. Orig. art has: 12 figures, 6 formulas and 1 graph.

ASSOCIATION: Vyzkumny ustav telekomunikaci, Prague (Telecommunications Research Institute)

SUBMITTED: 16Jan64

ENCL: 00

SUB CODE: EC

NR REF SOV: 000

OTHER: 008

JPRS

Card 1/1

BUDINSKY, J.

BUDINSKY J.

Vstah denniho rytmu k zacatku predcasneho porodu, Relation of
the daily rhythm to beginning of premature labor/ Cesk. gyn.
15:1-2 1950 p. 16-25.

1. Of the First Obstetrical and Gynecological Clinic of Charles University, Prague (Head — Prof. K. Klaus, M.D.).

BUDINSKY, J.

MICA Soc.10 Vol.7/2 Obstetrics, etc. Feb.54

230. BUDÍNSKÝ J. and KOUBA K. Zevni faktory jako jeden z etiologických činitelů u t. zv. habitualních potratů *External factors in the aetiology of so-called habitual abortions* Csl. Gynæk. 1953, 18/1 (55-59)

The history is given of a patient with 8 abortions, in whom psychological trauma could be traced in each instance, while clinical, endocrinological and biochemical data were normal. The need for psychological approach in such cases, on the lines of the Soviet 'protective-therapeutic' regime is stressed

Rohan - Valasske Mezirici

BUDINSKA, M.; BUDINSKY, J.; KOUBA, K.; CHVAPIL, M.

Etiology and pathogenesis of uterine myomata. Cesk. gyn. 21 no.5:
329-334 Sept 56.

1. I. gyn. -por. klinika KU, prednosta prof. Dr. K. Klaus - KUMZ
Usti nad Labem Ustav hygieny prace a chorob z povolani, prednosta
prof. Dr. J. Teissinger.

(LEIOMYOMA, etiology and pathogenesis
uterus, clin. statist. (Cz))

(UTERUS NEOPLASMS, etiology and pathogenesis
leiomyoma, clin. statist. (Cz))

CHVAPIL, M., MUDr.; BUDINSKY, J., MUDr.; BUDINSKA, M., MUDr.;
KOUBA, K., MUDr.

Biochemical study of the connective tissue from normal and
fibromyomatous uteri. Cesk. gyn. 21 no.5:334-339 Sept 56.

1. Ustav hygieny prace a chorob z povolani, red. prof. Dr.
J. Teissinger - I. gynaekologickoporodnicka klinika prof.
Dr. Klaus - KUNZ, Usti n. L.

(UTERUS NEOPLASMS

leiomyoma, biochem. of connective tissue (Cz))

(LEIOMYOMA

uterus, biochem. of connective tissue (Cz))

RUDINSKY, J.; SKALICKOVA, O.

Experimental contribution towards the solution of the problem of electric shock therapy in pregnant women. Cesk. psychiat. 53 no.4: 243-246 Sept 57.

1. Porodnicko-gynekologicka klinika a psychiatricka klinika v Praze.
(SHOCK THERAPY, ELECTRIC, exper.
in pregnant rabbits (Cz))
(PREGNANCY
eff. of electric shock ther. in rabbits (Cz))

BUDINSKY, J.

SKALICKOVA, O., Doc. Dr.; BUDINSKY, J. Dr.

Puerperal psychoses from the point of view of obstetrics. Cesk. gyn.
22/36579-584 Dec 57.

1. Psychiatricka klinika KU v Praze, prednosta prof. Dr Z. Myslivecek
- I. por. gyn. klinika KU v Praze, prednosta prof. Dr K. Klaus.
 - (PSYCHOSIS, in pregn.
puerperal, pathogen. & management (Cs))
 - (PUERPERIUM, psychol.
psychoses, pathogen. & management (Cs))

BUDINSKY, JOSEF
BUDINSKY, Josef, MUDr.; STIKSA, Emanuel; SRP, Bedrich, MUDr.

Improvement of obstetric analgesia with phenothiazine preparations.
Cesk. gyn. 22[37] no.1/2:24-28 Jan 58.

1. I, por. klinika Karlovy university, prednosta prof. Dr. K. Klaus.
J. B., Praha 2, Apolinarska 18.
(LABOR, anesth. & analgesia
phenothiazine prep. (Cz))
(PHENOTHIAZINE, rel. cpds.
in anesth. in labor 'Cz))

BUDINSKY, JOSEF, MUDr.

STIKSA, Emanuel, MUDr.; SRP, Bedrich, MUDr.; ~~BUDINSKY, Josef, MUDr.~~

Clinical experiences with oral chlorpromazine in labor. Cesk. gyn.
22[37] no.1/2:118-121 Jan 58.

1. I. por. klinika KU v Praze, prednosta prof. Dr K. Klaus. E. S.,
Praha 2, Apolinarska 18.

(LABOR, anesth. & analgesia

adjunct chlorpromazine, oral admin. (Cz))

(CHLORPROMAZINE, anesth. & analgesia

adjunct chlorpromazine in labor, oral admin. (Cz))

SKALICEKOVÁ, O.; DOBIAS, J.; RUDINSKY, J.; CHVAPILOVÁ, M.

Premenstrual suicidal tendencies. Cesk. psychiat. 55 no.2:78-81
Apr 59.

1. Psychiatrická klinika a gynekologicko-porodnická klinika KU v
Praze.

(SUICIDE,

premenstrual suicidal tendencies (Cz))

(PREMENSTRUAL TENSION, compl.

suicidal tendencies (Cz))

SKRIVAN, Jiri; BUDINSKY, Josef; STIKSA, Emanuel

Effect of neuroleptic drugs on uterine activity in labor. Cas.
lek.cesk.99 no.44:1389-1392 28 0 '60.

1. I. porodnicko-gynekologicka klinika, prednosta prof. dr.

K. Klaus, doktor lekarskych ved.

(CHLORPROMAZINE pharmacol)

(PROMETHAZINE pharmacol)

(ERGOT ALKALOIDS pharmacol)

(LABOR)

(UTERUS pharmacol)

FABIANOVA, J.; BUDINSKY, J.

The effect of medication on shortening the average duration of labor. *Cesk.gyn.*26[40] no.1/2:121-126 F '61.

1. I. gyn.-por.klinika KU v Praze, prednosta prof.dr. K. Klaus,
Dr. Sc.

(ANESTHESIA OBSTETRICAL)

BUDINSKIY, J.; ZAHRADNIK, R.; CHVAPIL, M.

Spectrophotometric method for the quantitative determination
of N-substituted phenothiazines and substances related to them.
Apt. delo 10 no. 1:94 Ja-F '61. (MIRA 14:2)
(SPECTROPHOTOMETRY) (PHENOTHIAZINE)

BUDINSKY, J., CSc.; DOLEZAL, A., CSc.; KAZDA, S., CSc.; KRAL, J.

A possibility of influencing labor by pharmacological means. Cesk. gyn. 27[41] no.5:372-375 Je '62.

1. I a II. gyn.-por. klin. fak. vseob. lek. KU, Praha, Gyn.-por. klin. pediatr. fak. KU, Praha, Ustav pro peci o matku a dite, Praha-Podoli.

(LABOR)

(ANESTHESIA OBSTETRICAL)

BUDINSKY, J., CSc.; STIKSA, E.; SKRIVAN, J.; FABIANOVA, J.; SRP, B., CSc.

Neuroplegic obstetrical analgesia. Cesk. gyn. 27[41] no.5:
387-394 Je '62.

1. I. gyn.-por. klin. KU v Praze, prednosta prof. dr. K. Klaus, DrSc.
(ANESTHESIA OBSTETRICAL) (HIBERNATION ARTIFICIAL)

BUDINSKY, J., CSc.; CHVAPILOVA, Milena

Effect of neuroplegic analgosia in labor on the psychic activity of the mother. Cesk. gyn. 27[41] no.5:416-419 Je '62.

1. I. gyn.-por. klin. KU v Praze, prednosta prof. dr. K.Klaus, DrSc.
Psychiatr. klin. KU v Praze, prednosta prof. dr. Vl. Vondracek.
(ANESTHESIA OBSTETRICAL) (HIBERNATION ARTIFICIAL)

CZECHOSLOVAKIA

KOBRLE, V., BUDINSKY, J., CHVAPIL, M., Institute for Hygiene of Work and of Professional Diseases at Prague, Head prof. J. Teisinger (Ustav hygieny prace a chorob z povolani, reditel prof. dr. J. Teisinger), First Gynecological Clinic of the Faculty of General Medicine Charles University, Head professor K. Klaus (I. porodnicko-gynekologicka klinika fakulty vseobecneho lekarstvi KU, prednosta prof. dr. K.Klaus) Prague.

"Content of Ultrafiltrable Hydroxyproline-Free and Combined-in Serum of Women During Pregnancy and After Confinement."

Prague, Casopis Lekaru Ceskych, Vol 102, No 9, 1 March 1963, pp 241 - 244.

Abstract [Authors' English summary modified]: No differences in the total serum was found in pregnant women, non pregnant women or those after confinement. Presence of peptides varied according to stages of pregnancy. 3 Tables, 13 Western, 1 Czech, 1 Russian reference.

1/1

BUDINSKY, J.; BALEK, M.

On the pathogenesis, therapy and prevention of inflammatory changes in the uterine adnexa. Cesk. gynek. 29 no.3:190-192 Ap'64.

1. Gyn.-por. odd OUNZ v Berouně; vedoucí: MUDr. J. Budinsky, CSc.

*

CHVAPIL, M. (Praha 10, Srobarova 48); BUDINSKY, J.

The value of study of reactivity of connective tissue for
obstetrics and gynecology. Cesk. gynek. 30 no.6:428-434
Ag '65.

1. Ustav hygieny prace a chorob z povolani v Praze (reditel
prof. dr. J. Teisinger, DrSc.) a Gyn.-por. odd. Obvodního ustavu
narodního zdravi v Beroune (vedoucí MUDr. J. Budinsky, CSc.).
Submitted January 8, 1965.

BUDINSKY, Jaroslav, inz.

Principles of static solution of transistor switches with resistance coupling with regard to the tolerance of parts and voltage. Slaboproudý obzor 24 no.10:Suppl.:Priloha pro mlade inzenyry 24 no.10:P53-P56 '63.

1. Vyzkumny ustav telekomunikaci, Praha.

BUDINSKY, Jaroslav, inz.

Problems of call transmissions in electronic telephone exchanges.
Slaboproudý obzor 24 no.10:576-585 0 '63.

1. Vyzkumny ustav telekomunikaci, Praha.

ORIGIN:	: Czechoslovakia	H-6
CATEGORY	:	
ABS. JOUR.	: RZKhim., No. 5 1960, No.	18363
AUTHOR	: Kubik, S., Budinsky, V., and Pleskova, A.	
INST.	: Not given	
TITLE	: Perforation of the Cartilage of the Nose in the Production of Aluminum Oxide	
ORIG. PUB.	: Pracovni Lekar, 11, No 5, 241-245 (1959)	
ABSTRACT	: The raw materials used in the production of aluminum oxide (bauxite) have been found to contain Cr (0.08-0.12%). The medical study of 291 workers has revealed perforation of the nose cartilage in 15 cases, ulcers and abscesses on the nose cartilage in 26 cases, and minor surface damage to the mucous membrane of the nose, hyperemia, pharyngitis in 21 cases; 10% of the cases show laryngitis, bronchitis emphysema, and bronchial asthma. It has been established that perforation of the nasal	
CARD:	1/4	

COUNTRY : Czechoslovakia
CATEGORY :

H-6

ABS. JOUR. : RZKhim., No. 5 1960, No.

18363

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : cartilage occurs 2-5 months after the start of work. The clinical picture of the disease is described (4 stages). Recommendations: encapsulation and mechanization of production processes, installation of an effective ventilating system, installation of area exhaust systems, the issue of respirators to the workers, installation of showers, provision of dressing rooms, institution of medically based personnel selection, institution of periodic medical checkups (general examina-

CARD: 2/4

229

COUNTRY:	: Czechoslovakia	H-6
CATEGORY	:	
ABS. JOUR.	: RZKhim., No. 51960, No.	18363
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	tions twice a year and otorhinolaryngologic examinations every month), sanitary educational work, the use of protective ointments (zinc ointment, Peru balsam, mineral and vegetable oils, cod liver oil, vitamin A, paraffin for the nose, 3 parts paraffin and 1 part lanolin with a small amount of phenol added for the hands after work). Counter-indications for work with Al_2O_3: atropic rhinitis, deformation of the nasal cartilage, irritation of the nostrils, chronic laryngitis, tuberculosis,	
CARD:	3/4	

COUNTRY	:	Czechoslovakia	H-6
CATEGORY	:		
ABS. JOUR.	:	RZKhim., No. 51960, No.	18363
AUTHOR	:		
INST.	:		
TITLE	:		
ORIG. PUB.	:		
ABSTRACT	:	scleroma of the upper respiratory tract, bronchitis, emphysema, bronchial asthma, pneumosclerosis, eczema. The bibliography lists 15 titles. T. Brzhevskaya	

CARD: 4/4

230

Budinszki H.T.
 15. Methods of reducing the size of risers - A felomlascokkantas modszerei -
 by T. Budinszki. (Hungarian Engineering - Magyar Technika - No. 5, pp. 26-29,
 May 1951, 8 figs., 1 tab.)

Risers are indispensable since the metals contract during solidification and this leads to the formation of cavities. The contraction takes place in the following three stages: (1) from casting temperature to the beginning of solidification, (2) from then on to complete solidification, and then (3) to complete cooling. The ratio of contraction for steel, which shows the highest rate, is 16+3+7.2 per cent. The influence of the shrinkage cavities and the rise pressure on the casting have been the subject of intense research. As a result certain guiding principles have been established as to the location of risers (which should be at that spot of the casting which solidifies last), their dimensions (the height of which should be 1 1/2 times the diameter and should have no neck at the base, etc.). With the ordinary "gravity" risers, a maximum production of 40 to 60 per cent can be obtained, which means that 100 kg molten metal will yield only 40 to 60 kg of good castings. However, the developments in the Soviet Union have proven that production can be substantially raised by applying the following casting processes: tangential gating (55 to 65 per cent), atmospheric pressure risers (60 to 75 per cent), centrifugal casting (65 to 85 per cent) and gas pressure risers (75 to 95 per cent). These processes are described in the article and are supple-

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T. BUDINSKI
mented by explanatory figures. Savings in material, thus obtained, are
most obvious with steel castings, this, however, holds good for all other
castings as well.

2/4
gm

1ST AND 2ND ORDERS										PROCESSES AND PROPERTIES INDEX										3RD AND 4TH ORDERS									
2																				10									
Application of Atmospheric Feeder Heads in Steel Casting. T. Bulinsky. (Kohászati Lapok, 1951, vol. 6, Jan.; Ontöle, 1951, vol. 2, Jan. pp. 4-12). [In Hungarian]. The author has developed a method of introducing air at atmospheric pressure underneath the first solidified outer crust of the feeder head during the solidification of steel castings. The results obtained are very satisfactory. Its advantages are: Better utilization of the liquid steel; fewer shrinkage cavities; reduced cleaning and machining costs; easier removal of feeder heads; drastic reduction in the percentage of rejects; and greater density of the castings. A disadvantage is that dirt in the feeder head is also pressed into the casting; this has to be taken into consideration in the design of the feeder heads.—Z. G.																													
ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION																													
1ST AND 2ND ORDERS										3RD AND 4TH ORDERS										1ST AND 2ND ORDERS									

BUDINSZKY, T.

Hungarian Technical Abst.
Vol. 5 No. 4 1953

60. The use of exothermic linings with steel castings
— *Hőleadó magok alkalmazása az acélöntvényeknél* — T.
Budinszky. (Foundry — *Öntőipar (Kovácsati Lapok)* —
Vol. 3, 1952, No. 10, pp. 221-228, 12 figs.)

For a better utilization of molten steel in steel castings, exothermic linings are applied around the feeders. Due to these linings the metal contained in the feeders solidifies and reduces to a minimum the use of superfluous metal. The material of the linings consists of a mixture of aluminium powder and metal oxides. By the proper choice of the ratio of the components the time of occurrence of the ignition can be set to meet the requirements. The exothermic linings are prepared in the same way as ordinary linings and dried subsequently. The published illustrations show the difference between the old and the new method indicating the quantity of molten metal used for castings.

I. Balsay

Budinsek, T.

¹⁸
Shell Moulding, T. Budinsek. (Kobraci Lepok, 1953, 8, July, Omlada, 145-149). A short review is given of the development of shell moulding techniques, materials and equipments. The accuracy of the metal mould machining must be 0.03-0.05 mm. The results of shell moulding experiments for steel casting are not yet satisfactory. —F. K.

2

BUDINSZKY, Tihor

12932* (Experiences in Hungary and Abroad on the Production of Centrifugally Cast Cylinder Liners.) Hősi és külföldi tapasztalatok a sörgéve és más hengercserepek gyártásában. Tihor Budinszky and József Cserdi. Ontóde, v. 5, no. 5, May 1954, p. 87-102.
Manufacture and defects of wet and dry liners. Diagrams, tables, micrographs, graphs, photographs. (To be continued.)

1976

Budinszky, Tibor.

HUNG.

5562* Hungarian and Foreign Experiences on the Manufacture of Centrifugally Cast Cylinder Bushings. Hazai és külföldi tapasztalatok a pároztató üntött hengerperselyek gyártásában. (Hungarian.) Tibor Budinszky and József Gerfeli. *Öntőde*, v. 5, no. 6, June 1954, pp. 281-284.

Measures for securing a wear resistant surface structure. Use of graphite instead of sand cores; elimination of defects. Photographs, diagrams.

gfp 62

GERM.

REBINSZKY, T.

Effect of the development of foundry technology on the growth of overhead; also, remarks by V. Sari and others. p. 26.

KOHASZATI LAPOK, Budapest, Vol. 10, no. 2, Feb. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

18
The Cost of Production in Relation to Casting Technology.
T. Bugimsky. *Kokshetau Lapok*, 1985, 10, Feb., 28-32.
The effect of up-to-date moulding and casting techniques
such as inoculation, green moulding, shell moulding, centri-
fugal casting, feeding of iron and steel castings at atmospheric
and greater than atmospheric pressure etc. are discussed,
but it is suggested that caution is necessary in introducing
these methods for general application.—r. x.

2
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PB

BUDINSZKI, Tibor, okleveles vaskohomernok

A simple method for the hot testing of sands and the practical application of the results. Koh lap 93 no.4: Suppl: Ontode 11 no.4: 73-85 Ap '60.

BUDISAN, N.I.

Calculation of characteristics of asynchronous generator
with capacitive excitation having the tension stabilized by
variation of rotation speed. Studii tehn Timiscara 7 no.3/4:
321-329 JI-D '60.

BUDISAVLJEVIC, M., dr; MALENIC, S., dr; DUKIC, J., dr; MARTINIS, U., dr

Bronchial adenoma. Med. glas. 15 no.12/12a:436-439 D '61.

1. Institut za tuberkulozu NR Srbije u Beogradu (Direktor: prof. dr M. Grujic)

(ADENOMA case reports) (BRONCHI neopl)

GRUJIC, Milic, prof., dr; BUDISAVLJEVIC, Mangilo, doc., dr; MARTINIS, Uros, dr

The problem of the pathogenesis of tuberculosis considered from the viewpoint of modern medical science. Med. glas. 15 no.12/12a:460-466 D '61.

1. Institut za tuberkulozu NR Srbije (Direktor: prof. dr M. Grujic)

(TUBERCULOSIS etiol)

BUDISAVLJEVIC, M., dr.; MALENIC, S.

Complicated hydatid cyst and differential diagnosis of lung diseases.
Med. glas. 16 no.3:128-131 Mr '62.

1. Institut za tuberkulozu Narodne Republike Srbije (Direktor: prof.
dr M. Grujic)

(ECHINOCOCCOSIS diag) (LUNG DISEASES diag)

S

RASOVIC, Lj., doc., dr; ~~BUDISAVLJEVIC, M., dr~~; MALENIC, S., dr; DUKIC, J., dr;
MLADENOVIC, R., dr; MARTINIS, U., dr

Pleural decortication in the treatment of complications and sequelae
of pneumothorax. Med. glas. 16 no.1:26-28 Ja '62.

1. Institut za TBC NR Srbije (Upravnik: prof. dr M. Grujic)

(PNEUMOTHORAX ARTIFICIAL compl)

S

BUDISAVLJEVIC, M.; SIBER, D.; MLADENOVIC, R.; MARTINIS, U.

Our 1st case of intralobar pulmonary sequestration. Acta chir.
Iugosl. 9 no.1:80-85 '61.

1. Institut za tuberkulozu NR Srbije (Director prof. dr Milic Grujic).
(LUNGS abnorm)

BUDISAVLJEVIC, M.; RIMSA, Lj.; MARTINIS, U.

Solitary congenital bronchogenic pulmonary and tracheal cysts.
Tuberkuloza no.2/4:169-177 '62.

1. Institut za tuberkulozu NRS, Beograd (direktor: prof. dr M. Grujic).
(LUNG DISEASES) (TRACHEA) (CYSTS)

BUDISAVLJEVIC, T.

BUDISAVLJEVIC, T. The possibility of using hoisting equipment of the Koepe system with multiple ropes for main winze shafts. p. 1662.

Vol. 11, No. 11, 1956.

TEHNIKA

TECHNOLOGY

Beograd, Yugoslavia

So: East European Accession, Vol. 6, No. 2, February 1957

BUDISAVLJEVIC, Tatomir, inz., docent (Beograd, Save Kovacevica 30)

The Koepe hoisting system, and technical regulations respecting transportation of men and materials in mine shafts. Tehnika Jug 18 no.10:Supplement: Rudarstvo metalurg 14 no.10:1854-1857 0'63.

1. Rudarsko-geoloski fakultet Univerziteta u Beogradu.

BUDISAVLJEVIC, Tatomir, inz., docent (Beograd, S.Kovacevica 30)

Receiving platforms in mines, and their hauling and hoisting capacity. Tehnika Jug 18 no.7: Supplement: Rudarstvo metalurg. 14 no.7:1269-1272a J1'63.

1. Rudarsko-geoloski fakultet Univerziteta u Beogradu.

BUDISAVLJEVIC, Tatomir, inz., docent (Beograd, Save Kovacevica 30)

Computation of wooden guides, and technical safety regulations. Tehnika Jug 19 no.3:Suppl:Rudarstvo geol metalurg 15 no.3:479-482b Mr '64.

1. Faculty of Mining and Geology, University of Belgrade.

(diss.)
BUDISHANTU, N.I., Cand Tech Sci — "Study of the performance of an asyn-
chronous generator as a source of ~~alternating~~ ^{variable} frequency in cer-
tain ~~circuits~~ ^{circuits} of regulated ~~electric drives~~ ^{AC} ~~of an alternating~~ ["]
~~current~~ Mos, 1959. 14 pp (Min of Higher Education USSR.
Mos Order of Lenin Power Engineering Inst), 150 copies
(KL, 27-59, 120)

BUDISHEV, Ye.V., inzhener.

Experience in planning irrigation systems for rice cultivation with periodic watering. Gidr.1 mel. 5 no.5:14-21 My '53. (MLRA 6:6)
(Irrigation) (Rice)

2748

**THE PROBLEM OF THE MECHANISM OF THE ACTION OF
PENETRATING RADIATION ON THE SYNTHESIS OF
NUCLEOPROTEINS IN THE SPLEEN**

A. M. Kuzin and E. V. Dudikova (Inst. of Biological Physics, Doklady Akad. Nauk SSSR, 61, 1163-6 (1963) Abstr. 18, (in Russian))

Maximum saturation of P^{32} into the protein fraction of the rat spleen and maximum suppression of this inclusion by irradiation immediately preceding injection of P^{32} phosphate occurred 10 to 20 hrs after the injection. Irradiation of the head of rats with x rays (1000 r) had little effect on the inclusion of P^{32} into spleen nucleoproteins. Suppression of P^{32} inclusion by 80 to 85% occurred when the spleen was irradiated directly with x rays (1000 r), but the rest of the body shielded with lead. Suppression by 20% occurred when the spleen was shielded with lead, but the rest of the body irradiated. (J.S.R.)

BUDIU, T.

A workshop has grown.

P. 1 (COSTRUCTORUL) (Bucuresti, Rumania) Vol. 9, No. 387 June 1957

So: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958

DUCA, AL.; BUDIU, T.

Cobalt molybdates. Rev chimie Roum 10 no.2:193-207 F '65.

1. Institute of the Rumanian Academy, Cluj Branch, 59-65 Donath St. Submitted July 25, 1964.

BUCA, A.; RUDIN, T.

Cobalt molybdates. Studii cerc chim 14, no.2:179-197 F '65.

Institute of Chemistry of the Soviet Academy, Cluj Branch,
59-65 Lenin St. Submitted July 25, 1964.

EXCERPTA MEDICA Sec 6 Vol 13/8 Internal Med. Aug 59
4150. THE CLINICAL SIGNIFICANCE OF THE ALKALINE PHOSPHATASE
ACTIVITY IN THE BLOOD SERUM, IN TYPHOID AND PARATYPHOID
FEVERS AND THEIR RELAPSES (Russian text) - Budje M. M. and
Blugher A. F. - TER. ARKH. 1957, 29/9 (58-64) Graphs 2 Tables 2
Alkaline phosphatase activity is usually increased in severe and moderate cases
and in the course of relapses. A certain inverse relationship exists between the
agglutination titre and the phosphatase activity. It is possible that the latter plays
a part in aspecific immunization mechanisms. Brokman - Warsaw (L. 6, 7)

BUDKA, W.

"Paper Mills In The Duchy Of Warsaw And The Congress Kingdom, 1810-1830" p. 121.
(Przegląd Papierniczy, Vol. 9, no. 4, Apr. 1953, Lodz)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress, Feb. 1954

BUDKA, W.

BUDKA, W.

Paper mills in Poznan. (Conclusion) p. 251. (PRZEGLAD PAPIERNICZY, Vol. 10, No. 8, Aug. 1954, Lodz, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

BUDKA, W.

Paper mills in the Kingdom of Poland. p.248
(PRZEGLAD PAPIERNICZY, Vol. 12, No. 8, Aug. 1956, Lodz, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9, Sept. 1957, Uncl.

ACC NR: AP6033474 SOURCE CODE: UR/0413/66/000/018/0061/0061

INVENTOR: Nemodruk, A. A.; Budkayev, A. K.

ORG: none

TITLE: Method of producing electrodes for alkaline nickel-cadmium and nickel-iron storage batteries. Class 21, No. 185988

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 61

TOPIC TAGS: storage battery, nickel cadmium battery, nickel iron battery, electrode

ABSTRACT: An Author Certificate has been issued for a method of producing electrodes by pressing the active material onto a metallic network base which is compressed to the given height of the electrode. To extend the life of the storage battery, the base is shaped in the form of a zigzag with a constant pitch equal to or smaller than the electrode thickness, and with the zigzag's height equal to or exceeding the electrode thickness.

SUB CODE: 10/ SUBM DATE: 16Mar64/

Card 1/1

UDC: 621.355.8. 035.251

BUDKE, A.

"A Working Plan for the Improvers and Popular Researchers Club of the Forest Management Office in Sastin (Slovakia)." p. 106, (POLANA, Vol. 9, no. 5, May 1953, Praha, Czechoslovakia).

SO: Monthly List of East European Accessions, LC, Vol. 2, No. 11, Nov. 1953, Uncl.

BUDKE, A.; STODOLA, G.

"Experiences with the Spot Method of Seeding in Afforestation of the Administration of Forest Management in Sastin", P. 5, (LEF, Vol. 1, No. 1, January 1954, Bratislava, Czech.)

SC: Monthly List of East European Accessions (EFAL), LC, Vol. 4, No. 3, March 1955, Uncl.

BUDKER, A.M.; LYAPUNOV, A.A., prof.; LAVRENT'YEV, M.A., akademik; VEKUA, I.N., akademik; MIGIRENKO, G.S., prof.; ZHURAVLEV, Yu.I., kand.fiziko-matem. nauk

Birth of a new method for the training of young scientists. Tekh.mol. 30 no.11:14-17 '62. (MIRA 16:9)

1. Chlen-korrespondent AN SSSR (for Budker). 2. Predsedatel' Sibirskogo otdeleniya AN SSSR (for Lavrent'yev). 3. Rektor Novosibirskogo universiteta (for Vekua). 4. Sekretar' partiynogo komiteta Sibirskogo otdeleniya AN SSSR (for Migirenko). 5. Chlen TSentral'nogo komiteta Vsesoyuznogo Leninskogo Kommunisticheskogo soyuza molodezhi (for Zhuravlev).

(Science--Study and teaching)
(Siberia--Academy of Sciences of the U.S.S.R.)

BUDKER, G.I.

SUBJECT USSR / PHYSICS
AUTHOR BUDKER, G.I.
TITLE A Relativistic Stabilized Electron Bundle.
PERIODICAL Atomnaja Energija, 1, fasc.5, 9-19 (1956)
Issued: 1 / 1957

CARD 1 / 2

PA - 1752

The present work investigates the physical principles upon which such a stabilized bundle is based, and mentions the results of theoretical investigations without details and without mathematical derivations. In the near future G.I. BUDKER and S.T. BELAEV will publish several works on the relativistic theory of the plasma which are in direct connection with the problem under investigation. In 1953 the author carried out the most important computations and experimental work began in 1954.

Equilibrium: At first the conditions of mechanical equilibrium were investigated. On this occasion an infinite straightlined bundle of moved electrons is investigated, and part of its charge is compensated by ions. Electron- and ion gas are each investigated in their respective rest system. The distribution of density over the radius is determined from the solution of the self-consistent problem of the motion of the particles in the fields produced by the particles themselves. Such a self-focussing bundle is a rather sharply limited formation. Also an expression for the exterior magnetic field is given which is necessary for the production of a ring-shaped closed bundle. Next, the transfer of energy and momentum from the ions to the electrons in the coordinate system of the electrons is determined. On this occasion nonrelativistic and also relativistic

Atomnaja Energija, 1, fasc.5, 9-19 (1956) CARD 2 / 2

PA - 1752

correctors are taken into account. In the cases of sufficiently strong fluxes electromagnetic waves are radiated because of the increase of focussing forces, which is in connection with the transversal oscillations of the electrons. The evaluation of the spectral composition of this radiation is discussed. Equilibrium can be established at electron energies of 15 MeV if the electron flux is ~ 1000 ampères. Therefore amperages in betatrons are not anywhere near equilibrium conditions. The time needed for the establishment of equilibrium is determined by several scattering processes. The particles are knocked out of the bundle by simple scattering, and for the life resulting herefrom a formula is given.

Next, the stability of the bundle with respect to the three following types of perturbations is investigated: a) Deviation of the ordered velocity of electrons from the equilibrium velocity. b) Excitation of plasma waves and separation of the bundle into individual thickened sections. c) Transversal curvatures.

INSTITUTION:

BUDKER, G.I.

Category : USSR/Atomic and Molecular Physics - Statistical Physics
Thermodynamics

D-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3435

Author : Belyaev, S.T., Budker, G.I.

Title : The Relativistic Kinetic Equation

Orig Pub : Dokl. AN SSSR, 1956, 107, No 6, 807-810

Abstract : The authors consider the problem of the relativistic invariance of the formulation of the kinetic equation and of the transformation properties of the distribution function. A vector F_k is introduced, which depends on the four coordinates x_k and on the four momenta p_k in such a manner that

$$\int F_k d^4 p = j_k \quad (k = 1, 2, 3, 4)$$

where j_k is the usual four-vector of the particle flux and density. F_k satisfies the relationship $F_k = F u_k$, where u_k is the four-velocity of the particle, and $F(x, p)$ is called the scalar of the distribution function. If the rest masses of the particles are equal, then $F(x, p)$ is related simply to the scalar $f(x, p)$, which coincides with the usual distribution function. A relativistically invariant equation is obtained

Card : 1/2

Category : USSR/Atomic and Molecular Physics - Statistical Physics
Thermodynamics

D-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3435

for the function F for a system of non-interacting particles in an electromagnetic field and for the case of a Coulomb interaction between particles. The latter case is considered under the condition that the particle energy $E \ll \sqrt{137} L mc^2$, where L is the Coulomb logarithm. The above equation leads to a relativistic equation for the ordinary function f , but not in a relativistically-invariant form. The authors also consider the problem of the energy transfer and momentum transfer from one gas to another.

Card : 2/2

BRAGINSKIY, S. I. and BUDKER, G. I.

"The Physical Phenomena in the Process of the Ignition of a Discharge for Incomplete Ionization." (Work - 1952); pp. 186-206.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions:" Vol. I. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

BUDKER, G. I.

"Questions Associated with the Drift of Particles in a Toroidal Magnetic Thermonuclear Reaction Chamber." (Work carried out in 1951); pp. 66-76.

"The Betatron Method of Heating Plasma to High Temperatures." (Work - 1951); pp. 122-129.

"An Electrical Breakdown in a Gas in the Presence of a Strong External Magnetic Field Variable in Time." (Work - 1952); pp. 214-221.

"Thermonuclear Reaction in a Potential Hole of a Negative Charge." (Work - 1952); pp. 249-288.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. I. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

BUDKER, G. I. and BELYEV, S. T.

"Kinetic Equation for an Electron Gas for Rare Collisions." (Work - 1954) pp. 330-354.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. II. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

~~BUDKER, G. I.~~
BELYEV, ^{AY}~~F~~^S. T. and BUDKER, G. I.

"Relativistic Plasma in Variable Field," (Work - 1953); pp. 283-329.

"The Physics of Plasmas; Problems of Controlled ~~by~~ Thermonuclear Reactions." Vol. II.
1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

BUDKER, G.I.

~~SECRET~~

21(7)

PHASE I BOOK EXPLOITATION SOV/1243

Akademiya nauk SSSR. Institut atomnoy energii

Fizika plazmy i problema upravlyayemykh termoyadernykh reaktsiy,
t. III. (Plasma Physics and the Problem of Controlled
Thermonuclear Reactions, v. 3) [Moscow] Izd-vo AN SSSR,
1958.. 362 p. 3,000 copies printed.

Resp. Ed.: Leontovich, M.A., Academician.

PURPOSE: This collection contains previously unpublished work of
members of the Institut atomnoy energii (Institute of Atomic
Energy) of the Academy of Sciences of the USSR. It is intended
for scientists interested in this field.

COVERAGE: This book is the third of four volumes of previously
unpublished work of the members of the Institute of Atomic
Energy during the period 1951-58. The exploitation cards on the
other volumes in this series have been released under the
numbers 1241, 1242, and 1244.

Card 1/6

Plasma Physics and the Problem (Cont.) SOV/1243

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Card 5/6

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AVAILABLE: Library of Congress (QC794.A38)		

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Card 6/6

Abstract: Kapitalismus ist die Frucht des Verfalls des globalen Toleranz in einer antichristlichen Welt.

nachgewiesen wurde, abgeben. Der Versuch für den Zeitfall des K'-Messens in zwei K'-Messern hierbei ausgeführt

Liberal

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(Received and accepted: Jan. 1970; 2 November, 1969)

¹Charvalat and Leclercq see *Lang. Phys.* 2, 23 (unpublished).

Experimentelle Prüfung des Verhaltens geladener Teilchen in einer silbathischen Falle¹⁾

A. N. Ponomarev

In der vorliegenden Arbeit wurde die Bewegung der β -Strahlen vom Thallium in einer isolierenden Faser untersucht. Es ergab sich, daß ein β -Teilchen im Calcium mit einem Magnetfeld (des magnetischen Barriern) unter bestimmten Umgebungsbedingungen ein β -Teilchen mit einer Periode von 10 bis 15 μ sec. in der Lebensdauer von β -Teilchen in einer Faser vom Calcium, der Länge des Magnetfeld und unter Lebensdauer β -Strahlung.

Ein wichtiges Kriterium einer objektiven Politik bildet die Lebensdauer der in der Regel blauen und roten Parteien. Da die Lebensdauer beim Fahren durch den Tunnel in der Regel nur auf ein Jahr begrenzt ist, ist die Lebensdauer der Parteien ein Kriterium für die Qualität der Politik. Die Parteien, die in der Regel nur ein Jahr leben, sind die Parteien, die in der Regel nur ein Jahr leben. Die Parteien, die in der Regel nur ein Jahr leben, sind die Parteien, die in der Regel nur ein Jahr leben.

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1) С. И. Кузнецов, Задача о смешанном движении твердого тела в вязкой среде, Доклады АН СССР, 1964, № 1, с. 11-12.

7) In dieser Arbeit wurde zur Zerstreuung betrachtet, das
Feld, tritt bei den Wechselwirkungen der Teilchen
abstrahlung von einer Faser heraus, ist bei jeder
nicht gleich.

Read by Margaret. 11 Apr 59

—

Vorherbeifahren[illegible]

einmalige des Tritiumzerfalls in der Folge entstehen β -Strahlen ionisiert bei seiner Passage Gasatome. Die sich bildenden Ionen und langgestreckten Elektronen können durch ein schwaches elektrisches Feld, das die Bewegung der β -Teilchen nicht behindert, weiter als in einer Ionisationskammer für Fall II, gesammelt werden. Die Größe des auf diese Weise erhaltenen Signals ist proportional zur Zahl der in der Zeitintervall Δt zerfallenen Tritiumatome (d.h. zum Tritiumgehalt) und variiert durch physikalische Prozesse (Lebensdauer, Verluste bei thermischen Reaktionen, Diffusion und bei der Lebensdauer der β -Teilchen in der Vakuumkammer) mit dem Tritiumgehalt.

Formel für die Transformationsmatrix in Plasma

Die Beziehung der Rotation elektromagnetischer Wellen in einem Plasma, das sich in einem Magnetfeld bewegt, wobei sich das Plasma selbst in einem Magnetfeld befindet, führt zu dem folgenden Ergebnis (11) für Frequenz der reflektierten Welle lautet:

$$\omega = \omega_0 \left(1 - \frac{v^2}{c^2} \right)^{-1/2}$$

Der Transformationsfaktor der elektromagnetischen Wellen ist:

$$K = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}} \left(1 - \frac{v^2}{c^2} \right)^{-1/2}$$

und der Transformationsfaktor ist:

$$K = \frac{1}{\sqrt{1 - \frac{v^2}{c^2}}} \left(1 - \frac{v^2}{c^2} \right)^{-1/2}$$

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Über die Teilchenbeschleunigung im Plasma¹⁾

Parasiten, für die Triebhochschätzung von Interesse

2. Н. В. Павлов

[illegible]

BUDKER, G. I.; NAUMOV, A. A.

"Studies of Colliding Electron-Electron, Positron-Electron and Proton-Proton Beams."

Report presented at the International Accelerator Conference at Dubna, U.S.S.R.
21-27 August 1963.

Institute for Nuclear Physics, Siberian Branch, Academy of Sciences, U.S.S.R.

24c

BUDKER, G. I.

I 47304-55 EWT(n)/EPA(w)-2/ENA(m)-2 Pab-10 IJP(c) GS
 S/0000/64/000/000/0274/0287 66
 64
 B+1

ACCESSION NR: AT5007921

AUTHOR: Bayyer, V. N.; Blinov, G. A.; Bondarenko, L. N.; Yerozolinskiy, B. G.;
 Korobeynikov, L. S.; Mironov, Ye. S.; Naumov, A. A.; Onuchin, A. P.; Panasyuk,
 V. V.; Popov, S. G.; Sidorov, V. A.; Sil'vestrov, G. I.; Skrinitskiy, A. N.;
 Khabakhpashev, A. G.; Auslender, V. L.; Kiselev, A. V.; Kushnirenko, Ye. A.;
 Livshits, A. A.; Rodionov, S. N.; Synakh, V. S.; Yudin, L. I.; Abramyan, Ye. A.;
 Vasserman, S. B.; Vecheslavov, V. V.; Dimov, G. I.; Papadichev, V. A.; Protopopov,
 I. Ya.; Budker, G. I.

TITLE: Colliding electron-electron, positron-electron, and proton-proton beams

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963.
 Trudy. Moscow, Atomizdat, 1964, 274-287

TOPIC TAGS: high energy interaction, high energy plasma, particle physics, particle beam, charged particle beam

ABSTRACT: In the Institute of Nuclear Physics, Siberian Department, Academy of Sciences SSSR, programs on high-energy particle physics are mainly concerned with work on colliding charged particle beams. The Institute considers it unsuitable

Card 1/5

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ACCESSION NR: AT5007921

for its purpose to install huge accelerators whose construction requires large resources outlaid and long time. For work on colliding electron-electron, positron-electron, and proton-proton beams, three installations are being built, which are in various stages of readiness. Work on colliding electron beams was conducted at the institute (then a laboratory of the Institute of Atomic Energy under I. V. Kurchatov) in the Fall of 1956, after Kerst's report on accelerators with colliding proton beams of the FFAG type. By that time Soviet scientists had already acquired some experience in obtaining large electron currents; in particular, the mentioned laboratory had installed and then abandoned a device for the spiral storage of electrons (G. I. Budker and A. A. Naumov, CERN Symposium, 1, 76 (1956)), by which, subsequently, circulating currents of the order of 100 amperes were obtained. In 1957 two variants of this device were considered at the same time. The first one consisted of two accelerators with spiral storage and subsequent transition of the particles to synchrotron state in comparatively narrow paths. The second one had storage rings with constant magnetic field and frequent external injection because of the damping of the oscillations under the action of radiation. The first variant was more cumbersome; the second variant contained an element not developed at that time, namely a 100-kilovolt commutator of 10 kilo-amperes with nanosecond front. At the end of 1957, the first positive results were obtained

Card 2/5

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ACCESSION NR: AT5007921

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with a packing discharger of 100 kilovolts, and work stopped on the variant with storage rings. Originally it was proposed to set up two devices: VEP-1 of 2×130 Mev energy, and VEP-2 of 2×500 Mev energy. The VEP-1 was considered as an actual model of an accelerator and as a device for conducting initial experiments at low energies. After the Panofsky report in 1958 on his work with colliding electron beams conducted in his laboratory at Stanford, construction ceased on 500-Mev storage paths and work was continued on the 2×130 -Mev installation. Instead of work on colliding electron beams with energies of 500 Mev, work at the end of 1958 was conducted with colliding positron-electron beams and the planning of the VEPP-2 device was begun, whose main elements are a strong-current electron accelerator and a high-vacuum storage path of 700 Mev energy. At the present time the VEP-1 and VEPP-2 are installed in Novosibirsk. The VEP-1 is in a state of neglect, but at the end of 1964 experiments will be begun with it. Installation of the VEPP-2 has been completed. To obtain a marked effect from the application of colliding proton beams, an accelerator is needed with an energy of at least 10 Gev. Since the ordinary accelerator at such energies is a very bulky machine, it was decided to combine the idea of colliding proton beams with the creation of an iron-less impulse accelerator with very large fields and a neutralized central busbar. This latter work of creating such a machine was reported by the authors at a Moscow conference

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held in 1956. The presence of a field with two directions in an iron-less accelerator with central busbar permits the acceleration of protons toward opposite sides in one machine, which makes possible the collision of protons in case of a suitable race-track. At the present time the Institute is developing a proton device with a magnetic field of about 200 kilogauss and radius of 2 meters for a particle energy of 12 Gev in the beam (equivalent energy is around 300Gev). Tests are being conducted on models, and an effective method of injection by overcharging of negative ions is under study. Also under development are an impulse electric power supply system of 100 million joules capacity and an hf power supply. Since 1958 the Institute has been conducting theoretical investigations on the limits of applicability of quantum electrodynamics [V. N. Bayyer, ZhETF, 37, 1490 (1959), and UFN, 78, 619 (1962)] for the calculation of the radiational corrections to the electrodynamic cross-sections [V. N. Bayyer and S. A. Kheyfets, ZhETF 40, 613-715 (1961) and Nuclear Physics (in print)], and on other problems of high-energy particle physics that are connected with the preparation of experiments on colliding beams [V. N. Bayyer, I. B. Khriplovich, V. V. Sokolov, and V. S. Synakh, in ZhTF, 1961]. The present report takes up under the mentioned three main headings the following pertinent topics: the accelerator-injection, storage paths, electron-optical channel,

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input and output system, experiments on storage, proposed work, experimental set-up, physical layout of magnets, power supply, etc. Orig. art. has: 8 figures.

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Institute of Nuclear Physics, SO AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: EE, WP

NO REF SOV: 012

OTHER: 003

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Card 5/5

1 4233-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS
 ACCESSION NR: AT5007971 S/0000/64/000/000/0993/0996

AUTHOR: Budker, G. I.; Dimov, G. I.

TITLE: Overcharge injection of protons into ring accelerators

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963.
 Trudy. Moscow, Atomizdat, 1964, 993-996

TOPIC TAGS: high energy accelerator, proton accelerator, proton beam, particle collision

ABSTRACT: The problem of intensity, which is important in any accelerator, becomes a problem of principle in the colliding-beam accelerator. The Nuclear Physics Institute of the Siberian Department, Academy of Sciences SSSR, is developing an iron-less accelerator with colliding proton beams, in which the particles accelerated in opposite directions in slight excentric orbits collide during the acceleration process. Because such an installation does not store the accelerated particles, its practical expediency is very sensitive to the magnitude of the initial current. Therefore, the Institute has conducted work on the multi-rotation injection of negative ions or atoms of hydrogen into the accelerator, which collapse against the target in the orbit with the protons being entrapped into the

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ACCESSION NR: AT5007971

accelerator track at the expense of the overcharge. Experiments have been conducted in which the particles are injected into a ring accelerator from a 1.5 Mev Van-de-Graaf accelerator; radius of storage orbit $R = 42$ cm, and half cross-section of the ring chamber $\Delta R = 0.1 R$. The overcharge target M on the orbit must be sufficiently "transparent" for the circulating protons and must be conducted and sufficiently rapidly from the chamber after termination of injection. The overcharge target M is realized in the form of a gaseous jet from a Laval nozzle. The hydrogen jet is the most "transparent" for protons, but it is easier to create a jet with small divergence from a monoatomic gas. The gaseous jet transects the vacuum chamber and exists through a diaphragm into the suction vacuum reservoir. A gaseous jet in vacuo has been obtained with a divergence of about 0.1 radian and length 10 cm. In the case of a diaphragm and suction reservoir 3 cm in diameter, there remains in the active operating volume less than 1% of the gas flowing out from the Laval nozzle. A nitrogen pump is used for suction of the hydrogen jet. The gaseous jet is in operation only during the period of injection. Operation of the jet is carried out with the aid of an electrodynamic shut-off device. The minimum duration of the jets obtained at the Institute is about 30 microseconds. The present report discusses the method of overcharge injection into ring accelerators, which was proposed by one of the authors of this report in 1959. The possi-

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ACCESSION NR: AT5007971

bility of such an injection method was indicated also later (Heinz V. Patent FRG No. 1090349 (1961)). Orig. art. has: 4 figures.

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Nuclear Physics Institute, SO AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: NP.

NO REF SOV: 000

OTHER: 004


Card 3/3

L 4237-66 EWT(m)/EPA(w)=2/EWA(m)-2 IJP(c) GS
 ACCESSION NR: AT5007979 S/0000/64/000/000/1065/1072 51/841

AUTHOR: Abramyan, Ye. A.; Bender, I. Ye.; Bondarenko, L. N.; Budker, G. I.;
Glagolev, G. D.; Kadymov, A. Kh.; Neshkov, I. N.; Naumov, A. A.; Pal'chikov, V.
Ye.; Panasyuk, V. S.; Popov, S. G.; Protopopov, I. Ya.; Rodionov, Yu. I.;
Samoylov, I. M.; Skrin'skiy, A. N.; Yudin, L. I.; Kon'kov, N. G.; Mostovoy, Yu. A.;
Nezhevenko, O. A.; Ostreyko, G. N.; Petrov, V. V.; Sokolov, A. A.; Timoshin, I. Ya.

TITLE: Work on the strong-current accelerators of the Nuclear Physics Institute,
 SO AN SSSR. (I) Strong-current pulse accelerators with spiral storage of the elec-
 trons. (II) Strong-current accelerators with one-revolution capture of the in-
 jected electrons

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy,
Moscow, Atomizdat, 1964, 1065-1072

TOPIC TAGS: high energy accelerator, electron accelerator, electron beam, betatron,
 plasma

ABSTRACT: The work on developing strong-current electron ring accelerators
 was begun in 1965 by the authors at the Nuclear Physics Institute, Siberian Depart-
 ment, Academy of Sciences SSSR, with the object of studying the possibility of

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ACCESSION NR: AT5007979

forming relativistic stabilized beams. In the laboratories of the Institute experimental studies were carried out on the four methods for obtaining large ring currents of relativistic electrons: (1) spiral method of storing the electrons in installations of the betatron type with subsequent betatron synchrotron acceleration (Budker G. I. CERN Symposium 1, 68 (1956); (2) obtaining of limiting electron currents by means of the injection of electrons from a strong-current linear accelerator into a ring chamber of large aperture with subsequent synchrotron acceleration; (3) storage of electrons in tracks (parking orbits) with constant magnetic field by means of the multiple injection of electrons from another less strong-current accelerator; this method is utilized for the storage of electrons and positrons in experiments with colliding beams (expounded in detail by G. I. Budker in the present collection, p. 274); (4) obtaining of large electron currents by means of the acceleration of electrons by a ring plasma. The present report discusses the first two methods under the following topics: (I) pulsed iron-less betatron with preliminary charge storage (B-2 device); strong-current pulsed synchrotron B-2S; pulsed strong-current betatron with spiral storage (B-3 device). (II) iron-less one-turn strong-current synchrotron (BSB); strong-current pulsed synchrotron B-3M. Orig. art. has: 7 figures.

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ACCESSION NR: AT5007979

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Nuclear Physics Institute,
SO AN SSSR)

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NO REF SOV: 001

OTHER: 001


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AFDC(m)/SSD/EDC(b)/AFML/ESD

ACCESSION NR: AP4042029

S/0030/64/000/006/0031/0036

AUTHOR: Budker, G. I. (Corresponding member AN SSSR)

TITLE: Building opposed-beam accelerators /9 B

SOURCE: AN SSSR. Vestnik, no. 6, 1964, 31-36

TOPIC TAGS: particle accelerator, opposed beam accelerator, opposed particle beam, particle beam, electron positron collision, positron beam, electron positron accelerator, electron electron accelerator, high energy accelerator, proton-proton accelerator, positron source, positron

ABSTRACT: A review of recent scientific activities of the Nuclear Physics Institute of the Siberian Department of the Academy of Sciences SSSR describes the development of new methods for accelerating charged particles and designing new accelerators which, while characterized by small size, have much greater capabilities than any accelerators currently existing both in the USSR and abroad. The Institute also carries on research in the physics of elementary particles, the physics

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ACCESSION NR: AP4042029

of plasma, and controlled thermonuclear reactions. One solution to the problem of small-size high-power accelerators is based on the use of opposed beams of charged particles. Work on opposed beams is now the basis of the high-energy physics program of the Institute. The attendant problem of the optimum signal-to-noise ratio is being solved by improving the vacuum up to 10^{-16} mm Hg and increasing the number of particles in the interacting beams. Another method is based on the use of two storage rings supplied by injection from a separate accelerator. Installations of this type have already been built in the Institute. The first such installation will be used for the study of elastic electron-electron scattering resulting in an effective energy of 70 Bev. At this time, this installation is in a preliminary operation phase. The second installation of the Institute is based on collision of electron and positron beams. Each beam is designed for an output energy of 700 Mev. The injecting accelerator is a 350-Mev synchrotron with a beam intensity of no less than $3 \cdot 10^{12}$ electrons per pulse with a pulse repetition frequency of 12 cps. This intensity is sufficient to provide an adequate number of positrons formed in a tungsten converter which is placed in the focal plane of two specially developed parabolic lenses. The expected conversion

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coefficient for output positrons having an energy equal to half of the energy of incident electrons is $3 \cdot 10^{-4}$. The third installation designed for proton interactions which is based on the opposed beam method will operate with a proton energy of 12 Bev. Orig. art. has: 3 figures.

ASSOCIATION: Institut yadernoy fiziki sibirskogo otdeleniya AN SSSR (Institute of Nuclear Physics, Siberian Branch AN SSSR)

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ENCL: 00

SUB CODE: IF

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L 49253-65 EWI(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-7 IJP(c)

ACCESSION NR: AP5010796

UR/0057/05/035/004/0605/0611

AUTHOR: Abramyan, Ye.A.; Budker, G.I.; Glagolev, G.B.; Naumov, A.A.

36
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TITLE: A betatron with spiral accumulation of electrons

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 605-611

TOPIC TAGS: betatron, space charge, electron trajectory, electron accumulation

ABSTRACT: The authors describe the B2 accelerator of the I.V.Kurchatov Atomic Energy Institute and report experiments performed with it from 1955 to 1957 for the purpose of obtaining large circulating currents. The equipment has since been modified and is now used as an injector for a larger accelerator. The B2 accelerator was a small betatron employing the spiral space charge accumulation system proposed by G.I.Budker and A.A.Naumov (CERN Symp., Geneva, 1956) and by K.Hund (Stall und Eisen, II, 11, 1953). The fields in the central core and in the acceleration chamber were produced by separate windings. In the initial stages of the cycle electrons were continuously injected near the inner wall of the chamber while the magnetic field in the chamber was held constant and that in the central core was increased. This resulted in the acceleration chamber becoming filled with electrons

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ACCESSION NR: AP5010796

in various stages of acceleration. Subsequently both fields were increased and the electrons were collected in the vicinity of an equilibrium orbit. The highest energy reached was 5.6 MeV in a $1.5 \times 1.5 \text{ cm}^2$ bundle in the vicinity of a 40 cm radius equilibrium orbit. A current of 75 A of 2.8 MeV electrons was obtained near a 14 cm radius equilibrium orbit. The theory of the accelerator is developed and electron trajectories are calculated. It is shown that the attainable charge density is limited by the defocusing effect of the space charge. The experimental results were found to be in good agreement with the theoretical predictions, and it is concluded that the spiral electron accumulation system is practical. Orig. art. has: 19 formulas and 5 figures.

ASSOCIATION: None

SUBMITTED: 08Apr64

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L 49251-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-7 IJP(c)

ACCESSION NR: AF5010797

UR/0057/65/035/004/0612/0617

AUTHOR: Abramyan, Ye.A.; Bender, I.Ye.; Budker, G.I.; Kadymov, A.Kh.; Naumov, A.A.; Panasvuk, V.S.

TITLE: A pulsed iron-free synchrotron

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 4, 1965, 612-617

TOPIC TAGS: electron accelerator, synchrotron, betatron, iron free magnet

ABSTRACT: The authors briefly describe the construction and operation of an iron-free synchrotron built in 1956-1957 (and since dismantled) in order to test certain proposals of two of them (G.I. Budker and A.A. Naumov, Dokl. na Mezhdunarodnoy konf. po fizike vysokikh energiy, M., 1956; L'Age Nucleaire, No. 1, 1956). The principal feature of the design was the use of a single-turn shaped conductor magnet under conditions in which the skin depth was small compared with the dimensions of the apparatus. Electrons were injected at 50 keV, were accelerated by betatron action to 2 MeV, and were subsequently accelerated with the instrument operating as a synchrotron. The instrument was designed to produce 200 MeV electrons in a magnetic

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